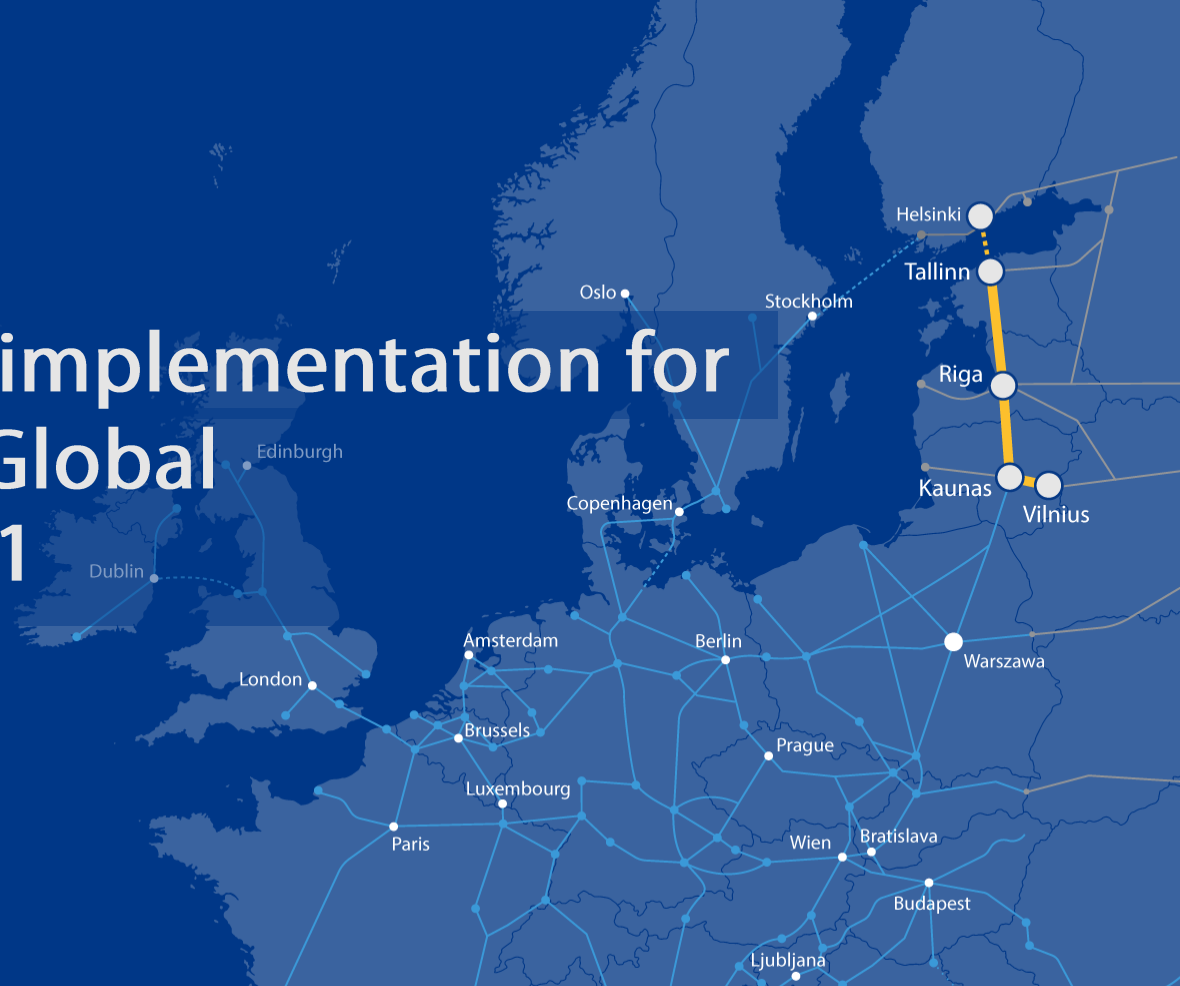


BIM (and more) implementation for the Rail Baltica Global Project – Phase 1





About me



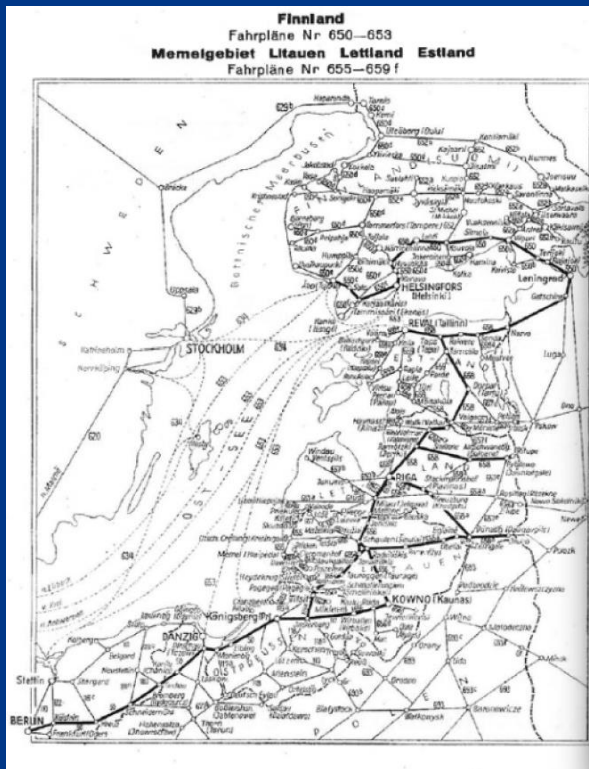
Raitis Bušmanis
BIM Team Leader

- In RB Rail AS since January 2018
- Before working at Trimble Solutions Oy
- “Involved” with BIM since 2012

- › Development of Rail Baltica project
- › Digitalization
- › First results
- › First acknowledgements

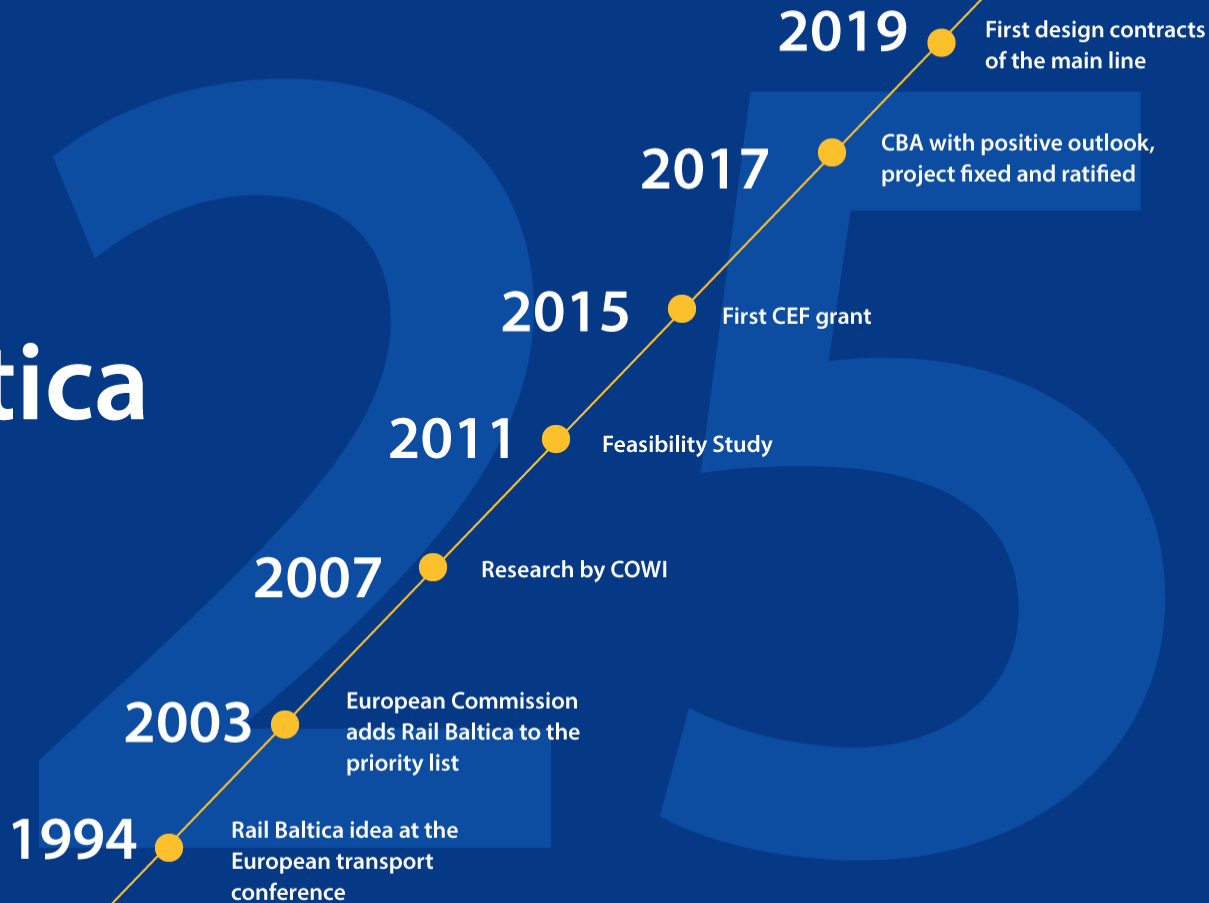


Development of Rail Baltica project



117 Eydtkau - (Tilsit-) Insterburg - Königsberg (Pr) - Marienburg (Westpr) (-Berlin)																													
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The idea of Rail Baltica goes back 25 years



Estimated annual load by 2030



Detailed Technical Design in Estonia



Sections:

-  Tallinn to Rapla
-  Rapla to Pärnu
-  Pärnu to Estonian/Latvian border

Indicative scope of works:



15
bridges



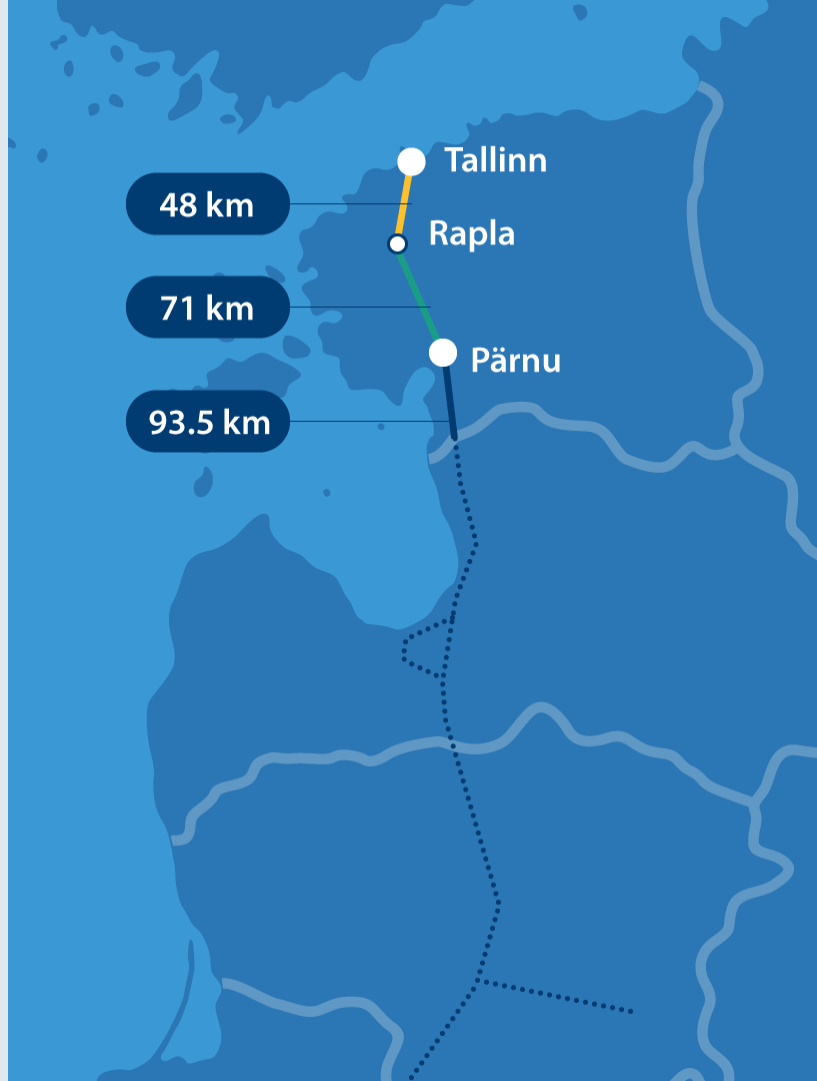
24
railway
viaducts



40
road
viaducts



24
ecoducts



Detailed Technical Design in Latvia



Sections:

-  Riga Central Section
-  Vangaži to Misa
-  Estonian/Latvian boarder – Vangaži
-  Misa – Latvian/Lithuanian border

Indicative scope of works:



32
bridges



43
railway
viaducts



82
road
viaducts



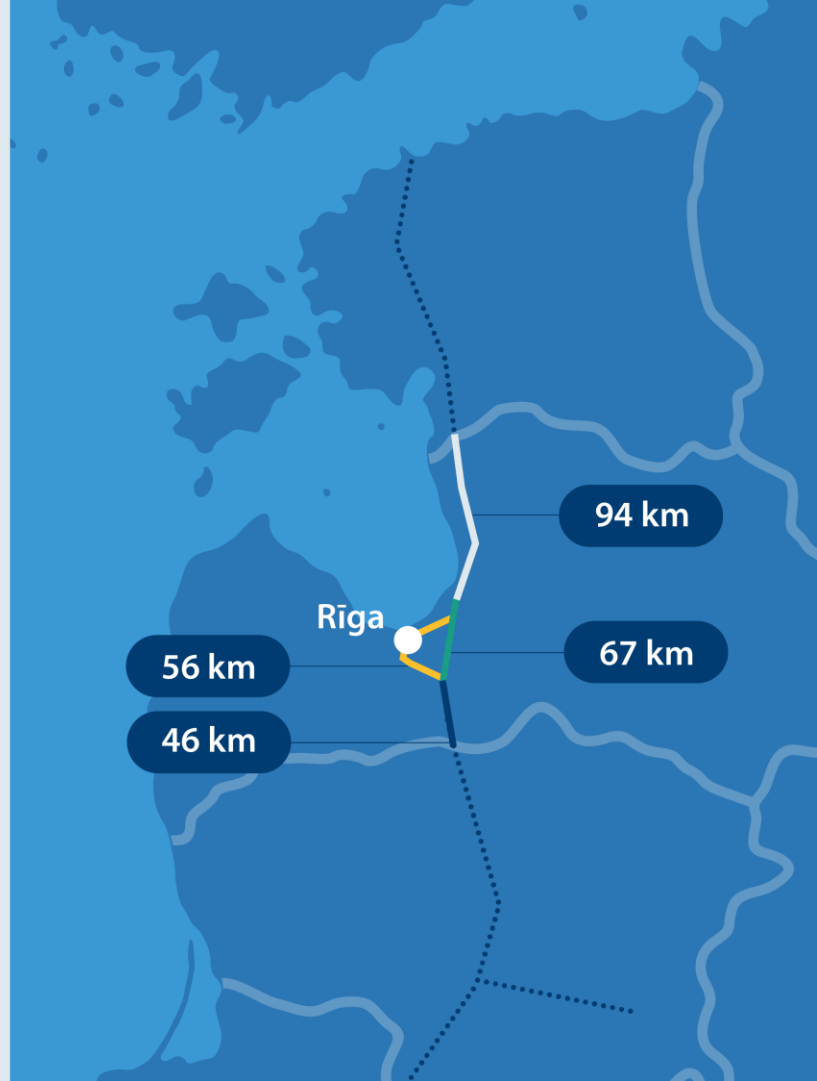
10
ecoducts



13
segregated
pedestrian
crossings



1
tunnel



Detailed Technical Design in Lithuania



Sections:

-  Ramygala to Lithuanian/Latvian state border
-  Ramygala to Kaunas

Indicative scope of works:



7
bridges



31
railway
viaducts



21
road
viaducts



7
ecoducts



ATKINS

Member of the SNC-Lavalin Group

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**LITUM
CONSULT**
OUR NETWORK YOUR NETWORK

Hogan
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SYSTRA

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ETC Mobility Solutions**

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Rail Management Consultants

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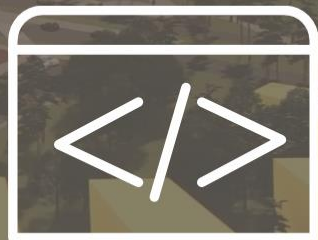
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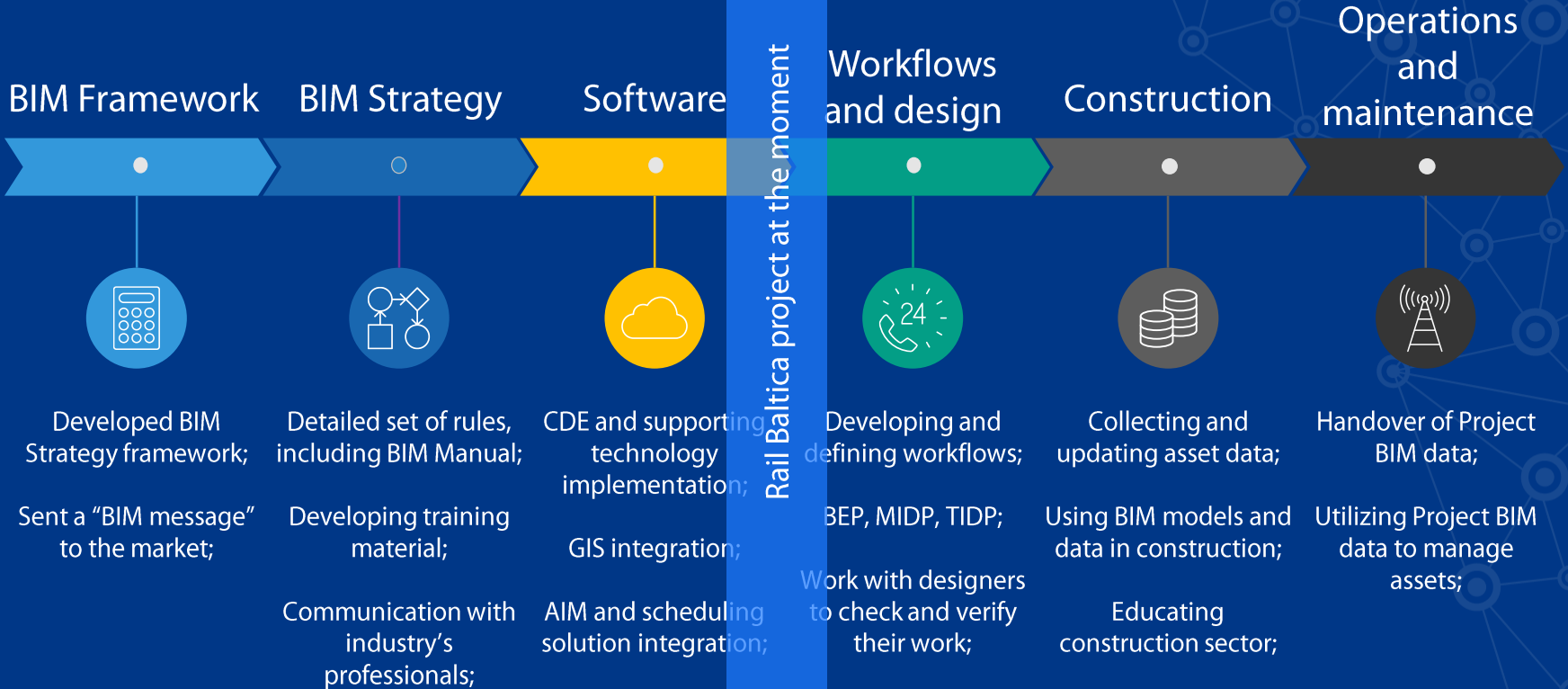
IDS
INGEGNERIA DEI SISTEMI


**VINTAGE
CONSULTING**



Digitalization

Rail Baltica BIM roadmap






This is the official website of the Rail Baltica Global Project
EN

ABOUT RAIL BALTICA
BENEFITS
NEWS & EVENTS
PROJECT IMPLEMENTERS
PROCUREMENT
INFO CENTRE

RB Rail's BIM documentation

RB Rail AS is currently working towards implementing the BIM Strategy for the Rail Baltica Global Project. The information on the page will be updated regularly to keep you up to date as the project progresses.

DOCUMENTS




Detailed BIM Strategy

A general document that describes the BIM approach for Rail Baltica Global Project. This document sets out a detailed strategy framework for implementing Building Information Management (BIM) on the Rail Baltica Projects. It outlines the strategic BIM goals, defines processes, standards and protocols for the capture, coordination, management and delivery of digital information throughout the lifecycle of design, construction and operation of the assets being delivered.

This document is a part of Design Guidelines.

[Download the file here](#)




BIM Manual (v.18-04-2019)

This document and its supporting ecosystem of documents, forms and templates describe and provide the BIM Strategic processes and workflows to be followed by both Rail Baltica and the Supply Chain during the Lifecycle of the projects, being this ecosystem a live documentation that will evolve during the lifecycle of the Rail Baltica BIM program to capture technological and methodology advancements.

The BIM Manual documentation should be used for all the project phases. Primarily it focuses on the design process and we are continuing to improve it.

This document will be a part of Design Guidelines.

[Download the file here](#)




Building Information Management (BIM) Employer's Information Requirements v2.1

This document sets the requirements according to which the supply chain shall work with BIM systems in order to deliver information to Client – RB Rail or National Implementing Bodies.

This document is a part of Design Guidelines.

[Download the file here](#)




CAD Standards

These standards apply to all drawings (sketches, preliminary, detailed design, construction, shop drawings and asbuilt drawings) and CAD Data (2D or 3D) produced. The intent of these CAD standards is to provide guidelines to ensure that all drawings are prepared to a standard and uniform appearance and reflect high quality workmanship, and that data created by CAD systems is correctly structured and classified to facilitate re-use and understanding by others. This document is not related to any particular Authoring Tool and it will be each Supplier who develops a specific practical standardization for the Authoring Tool to be used in their project, taking as a base this documentation.

This document will be a part of Design Guidelines.

[Download the file here](#)



BEP Template

This BIM Execution Plan (BEP) template has been elaborated to be used as the basis for the post-contract BEP. It has to be prepared as a direct response to the BIM EIR and Technical Specifications. The Supplier shall fulfill all the required information in order to show their intention to comply with all the standards and procedures described in the BIM Manual. The Supplier is free to add extra information.

This document is a part of Design Guidelines.

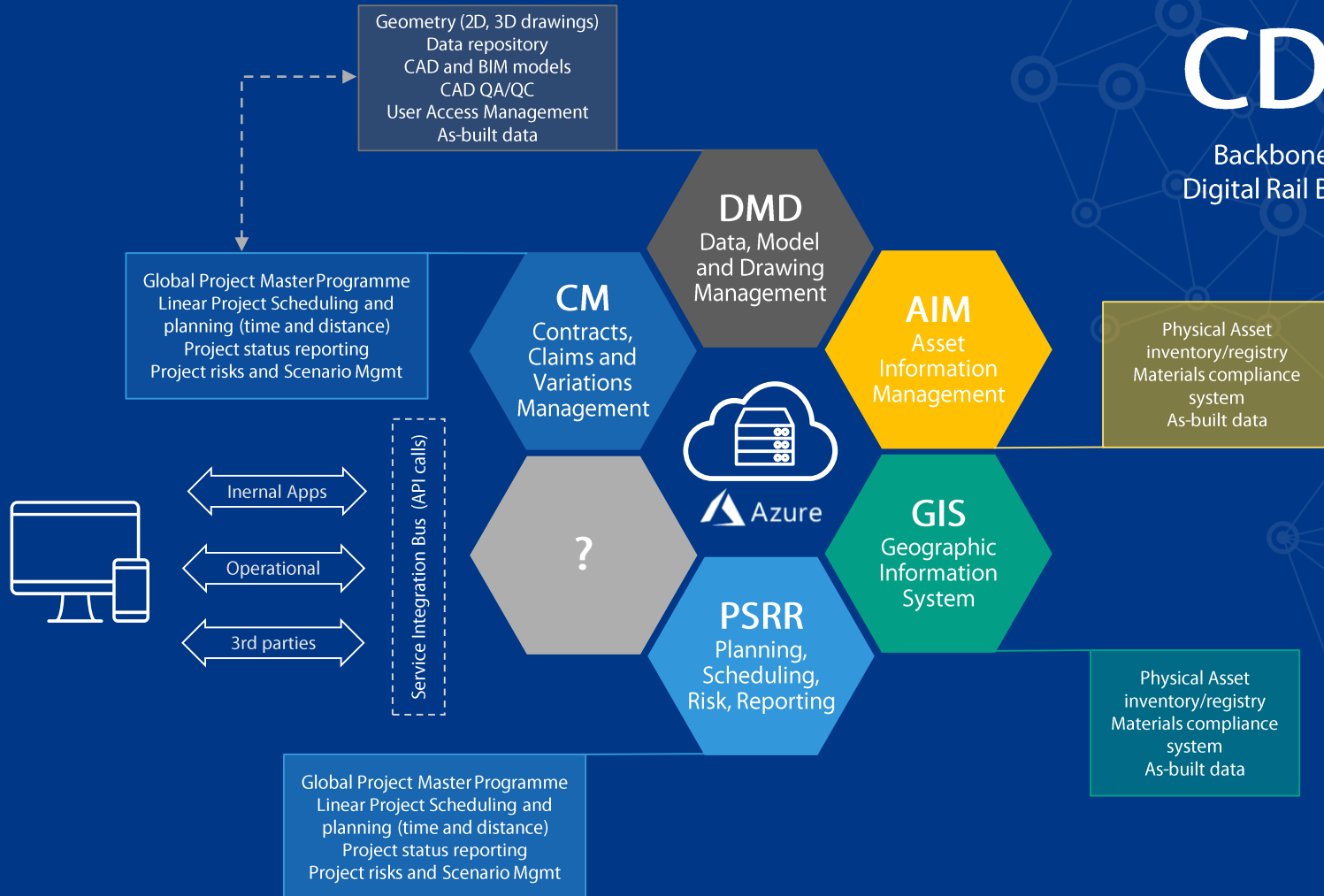
[Download the file here](#)

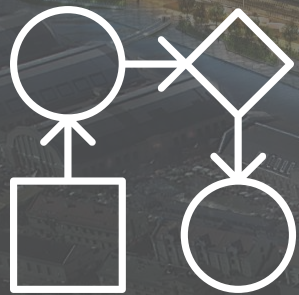
Rail Baltica's BIM documentation

<http://www.railbaltica.org/rb-rail-as-bim-documentation/>

CDE

Backbone of
Digital Rail Baltica

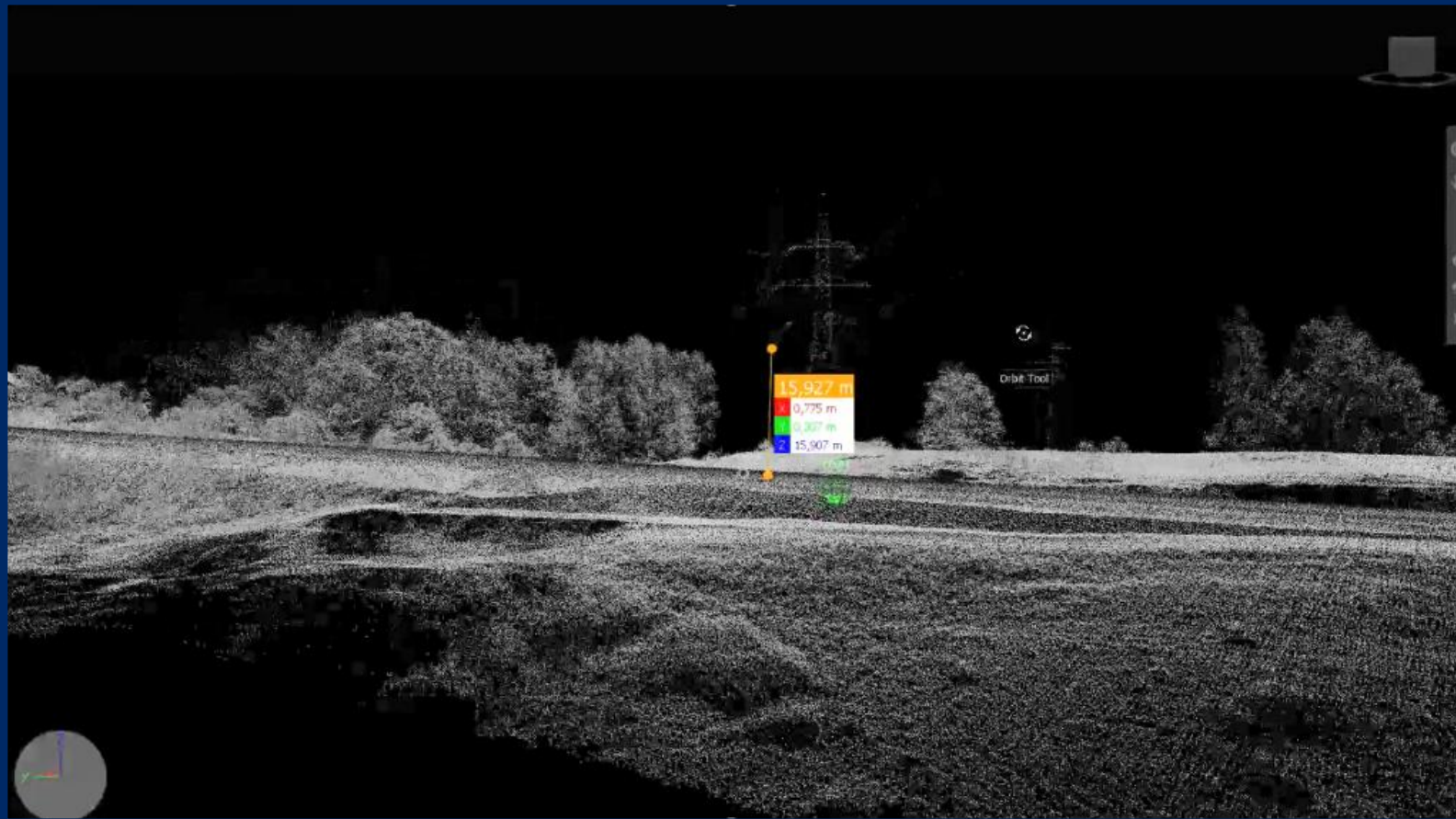


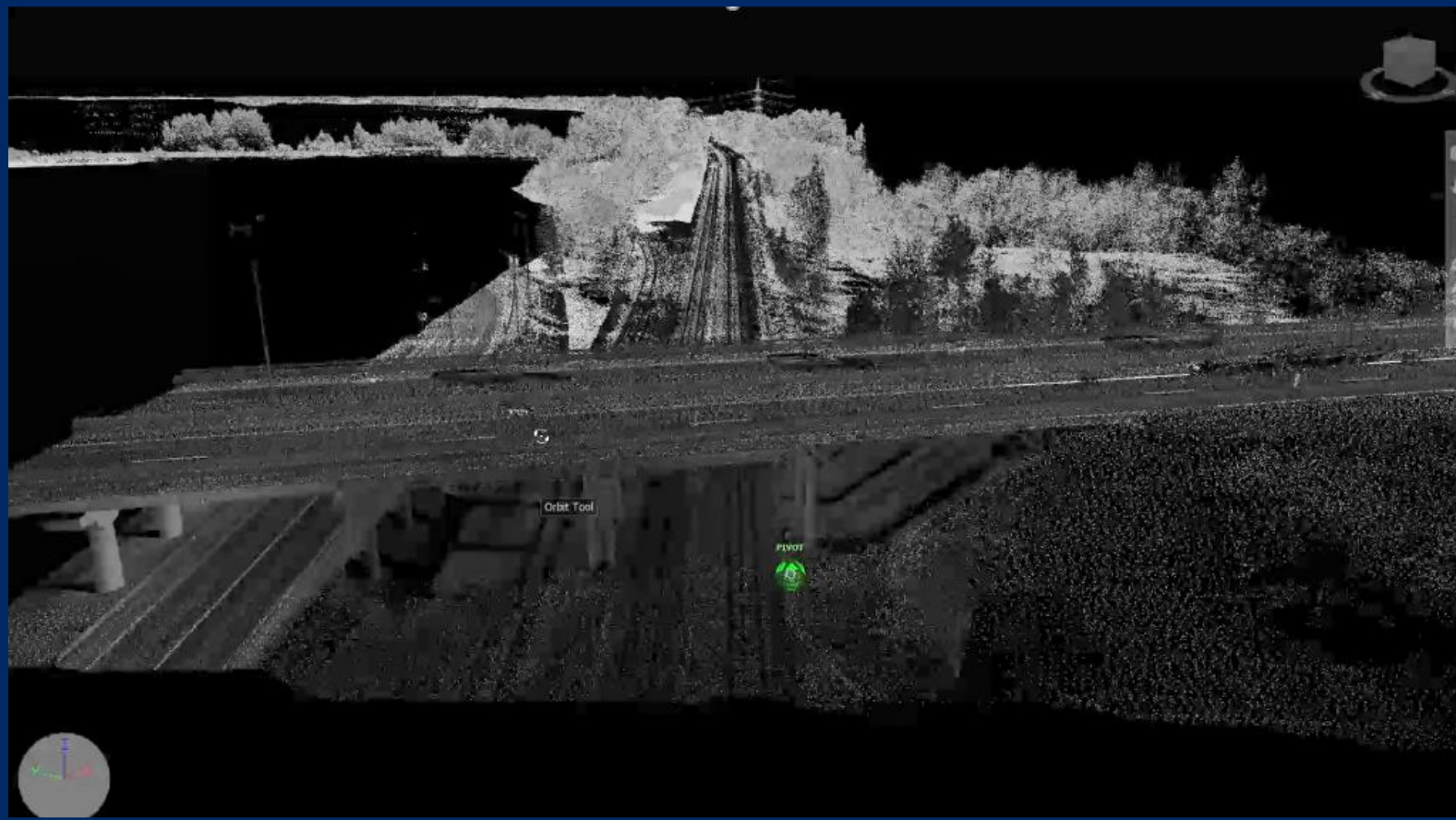


First results

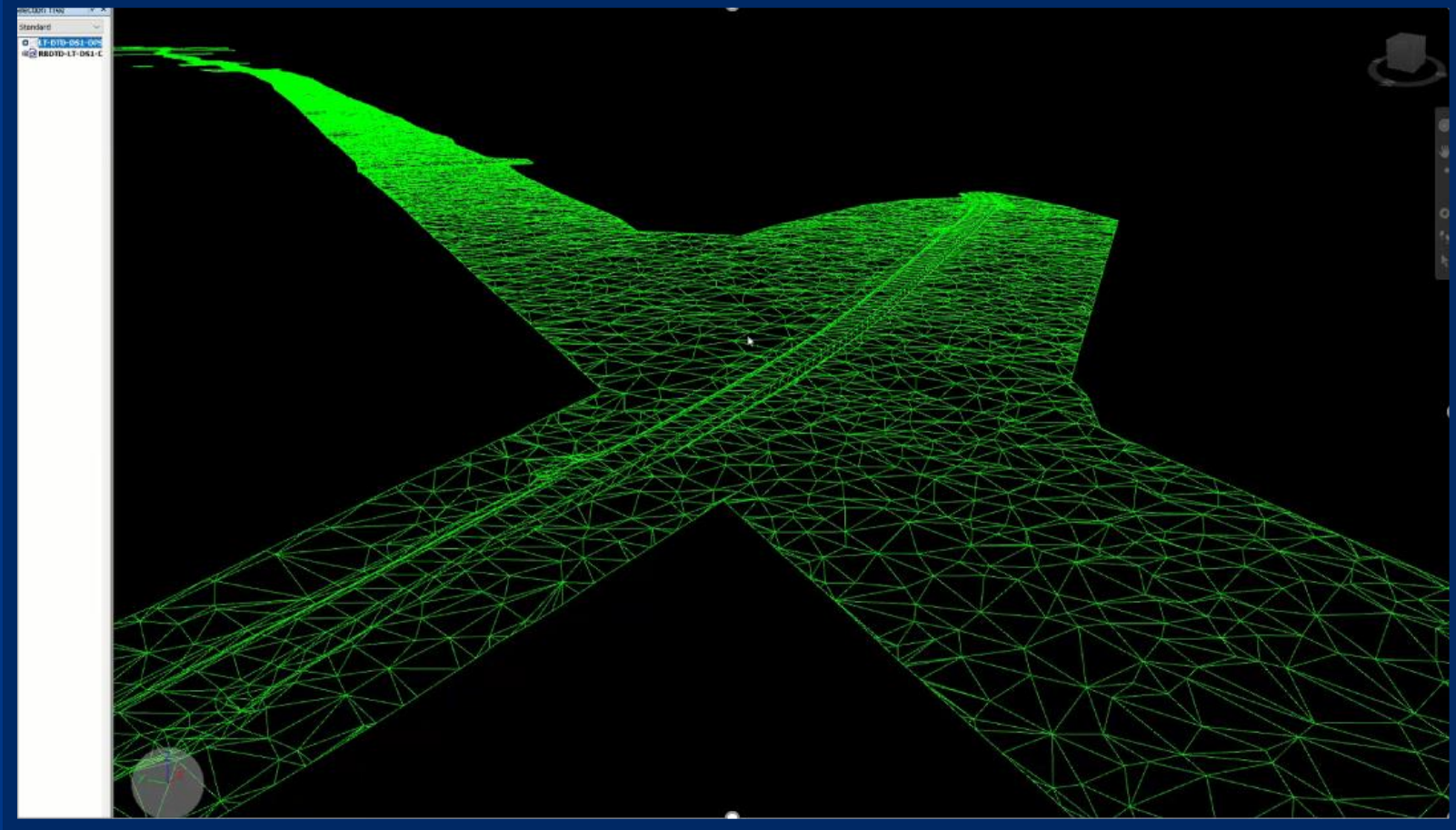
Rīga Central
Station



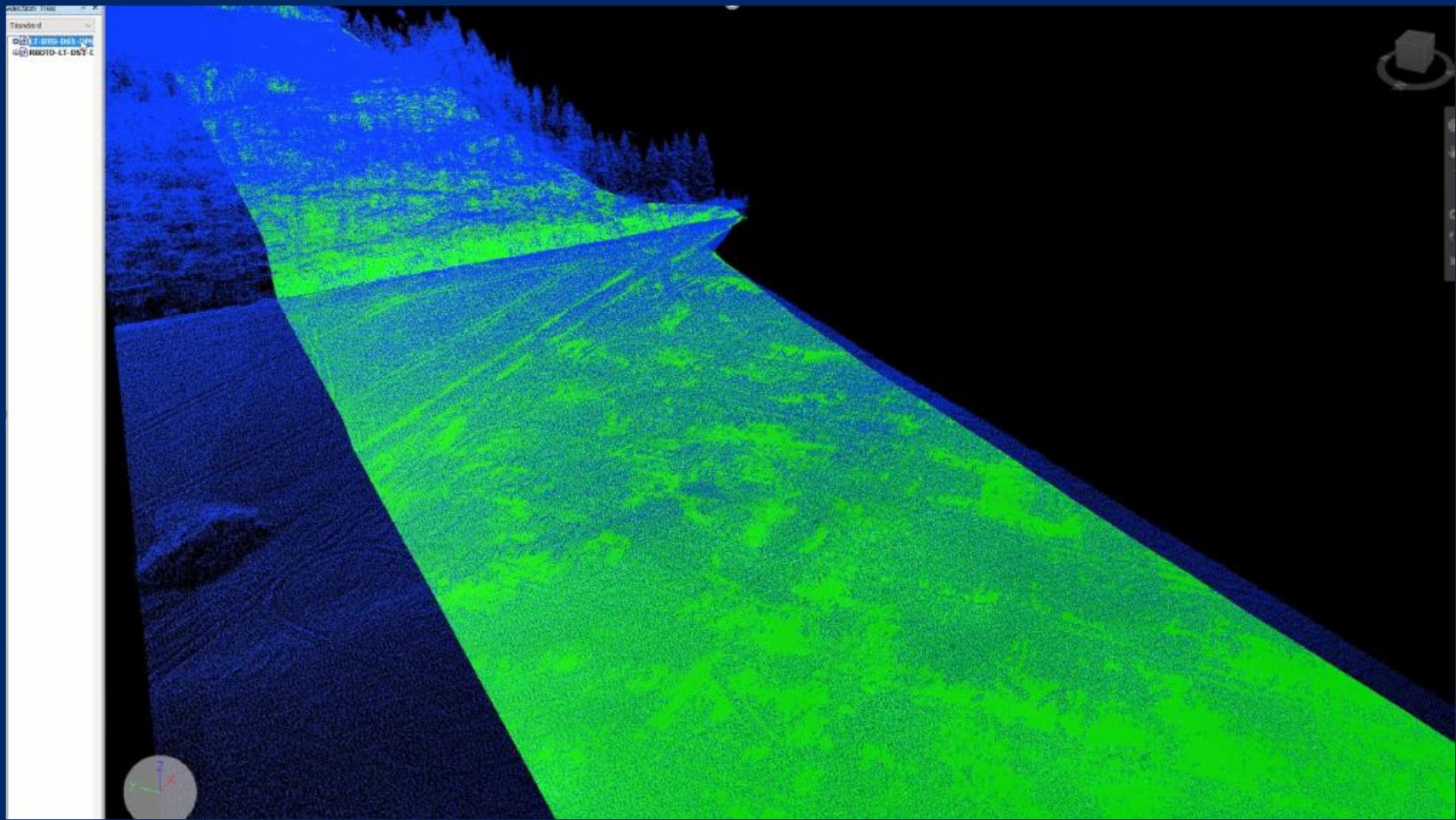


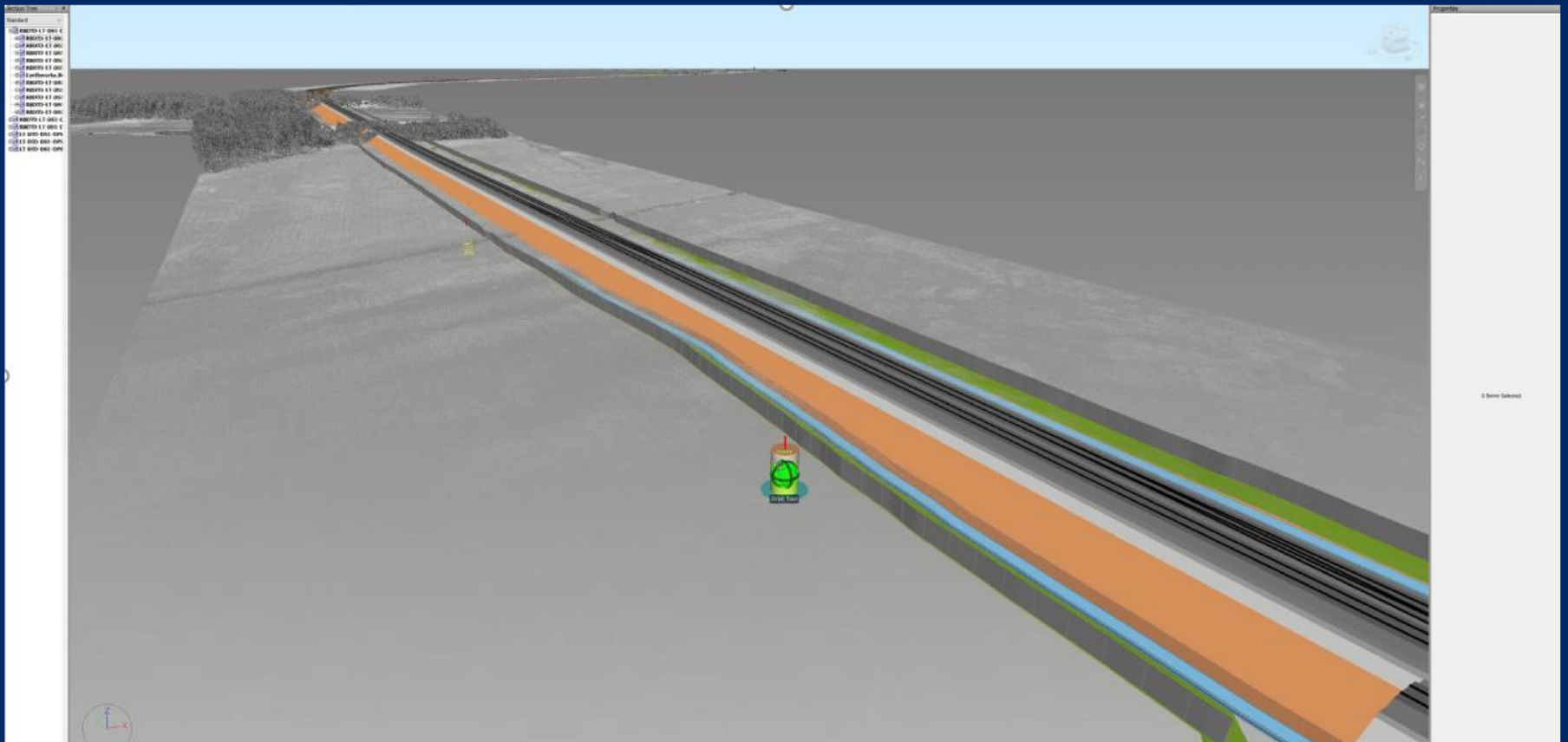


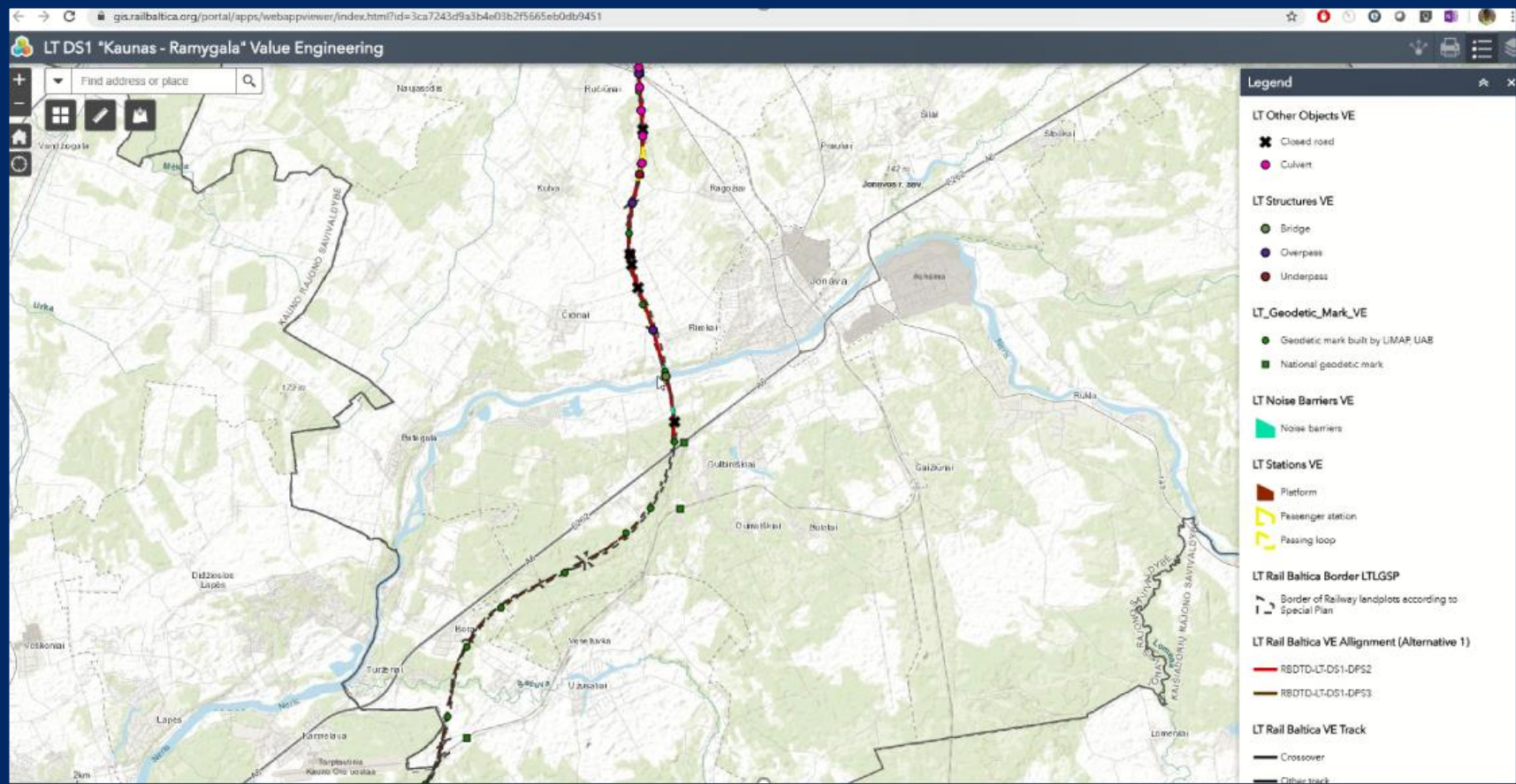


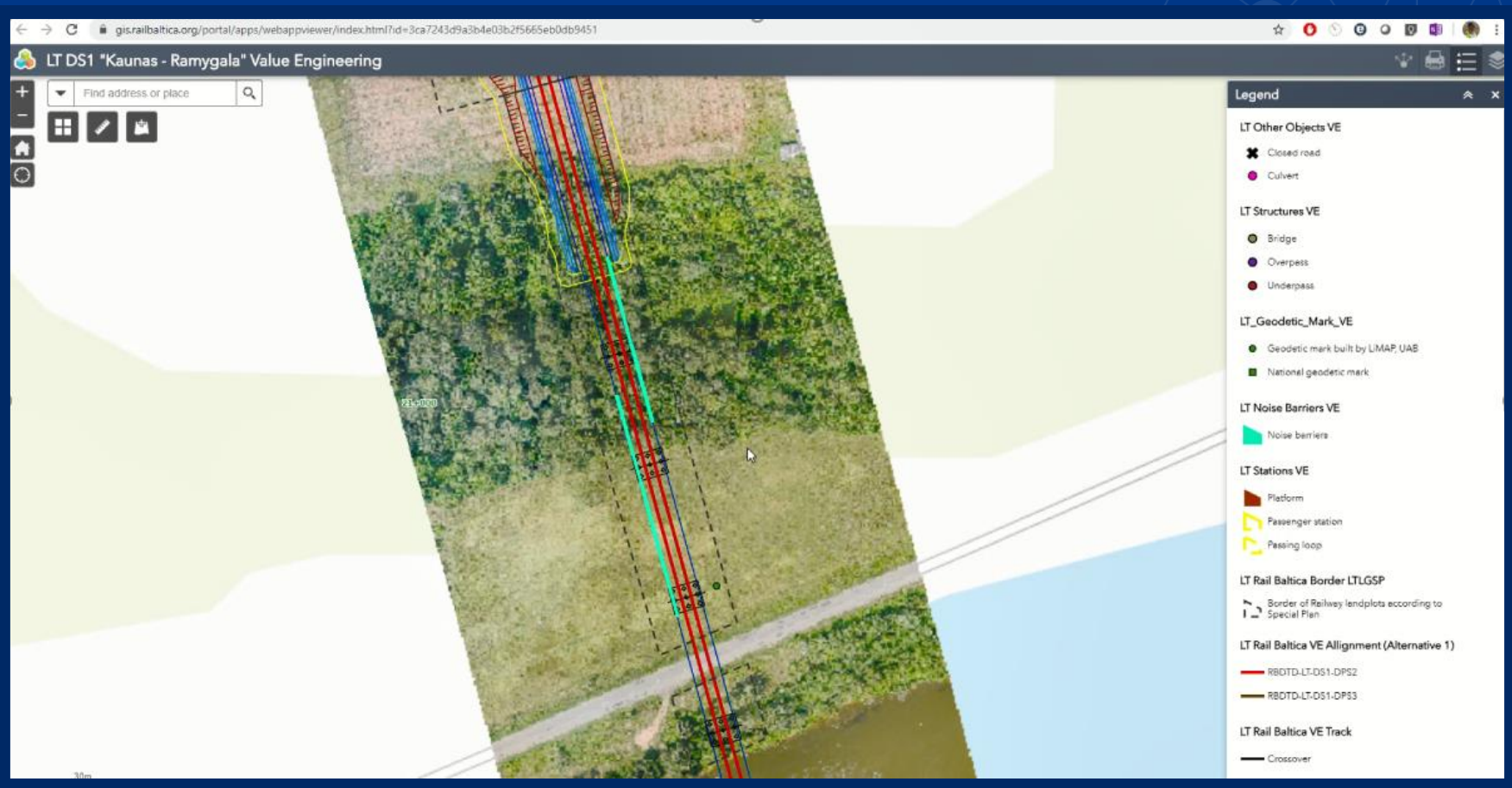


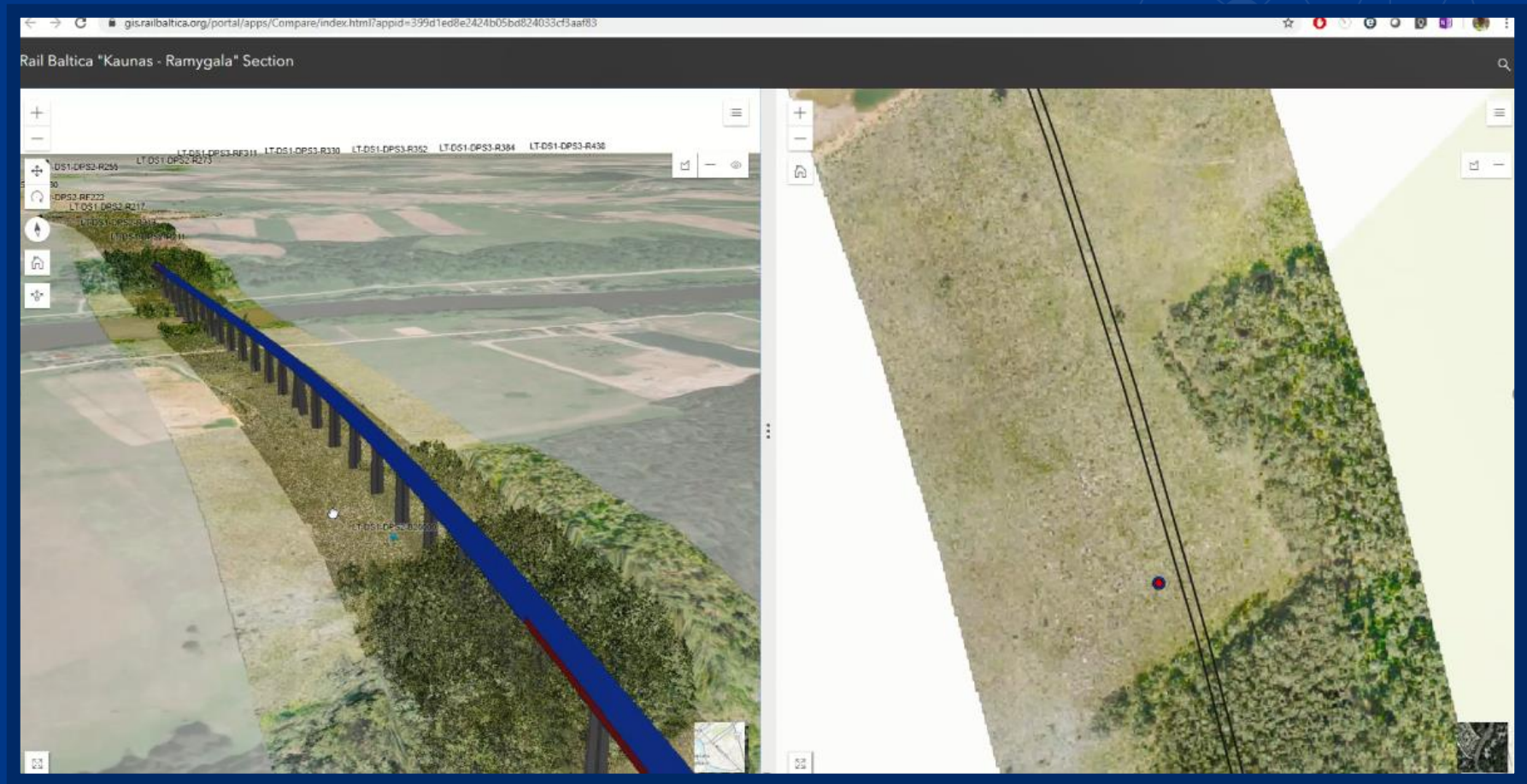


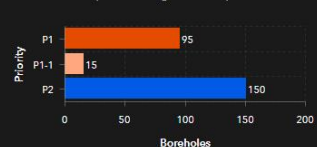




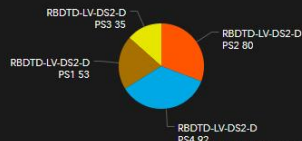




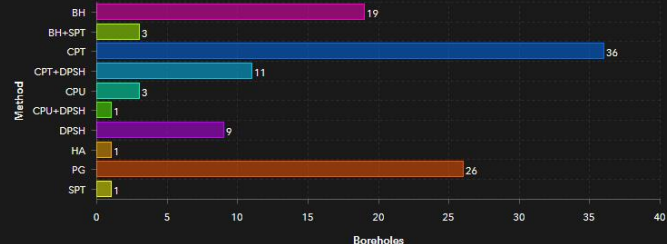


Investigation points by Priority
(Site Investigation Plan)

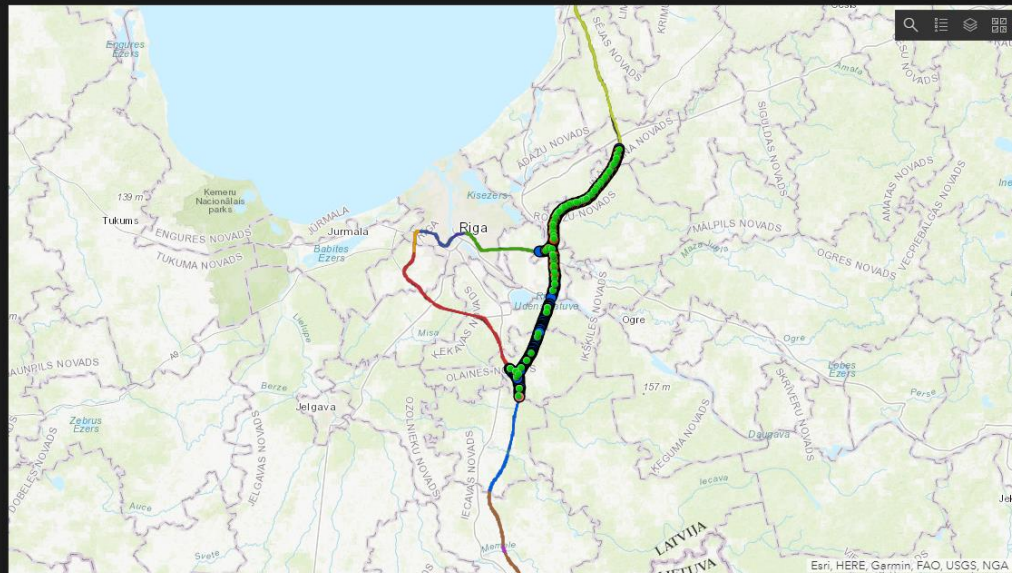
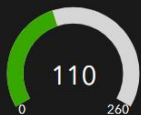
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Investigation points by DPS
(Site Investigation Plan)

Last update: a few seconds ago

Geotechnical Investigation points by Method
(LV DS2)

Last update: a few seconds ago

Geotechnical Investigation
Completed
(LV DS2)

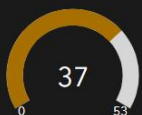
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Geotechnical Investigation
Completed P1
(LV DS2)

Last update: a few seconds ago

Geotechnical Investigation
Completed P2
(LV DS2)

Last update: a few seconds ago

Geotechnical Investigation
Completed
(LV DS2 DPS1)

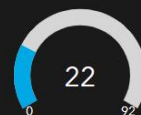
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Geotechnical Investigation
Completed
(LV DS2 DPS2)

Last update: a few seconds ago

Geotechnical Investigation
Completed
(LV DS2 DPS3)

Last update: a few seconds ago

Geotechnical Investigation
Completed
(LV DS2 DPS4)

Last update: a few seconds ago



Federated model used for visualizations

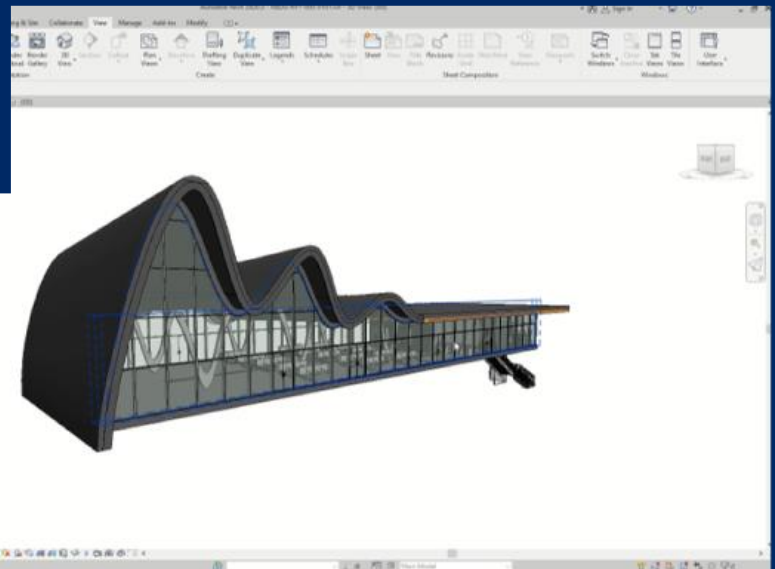


Federated model used in GIS and for visualizations

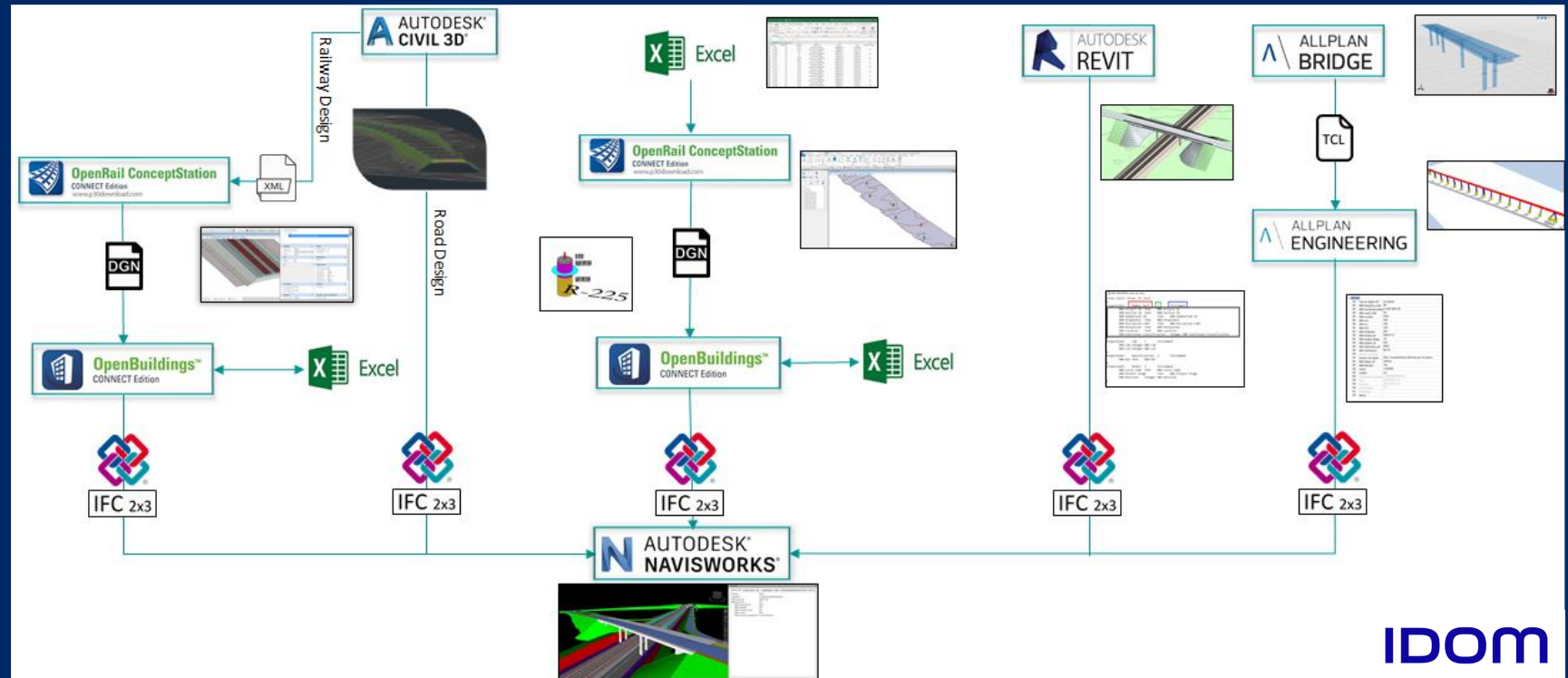




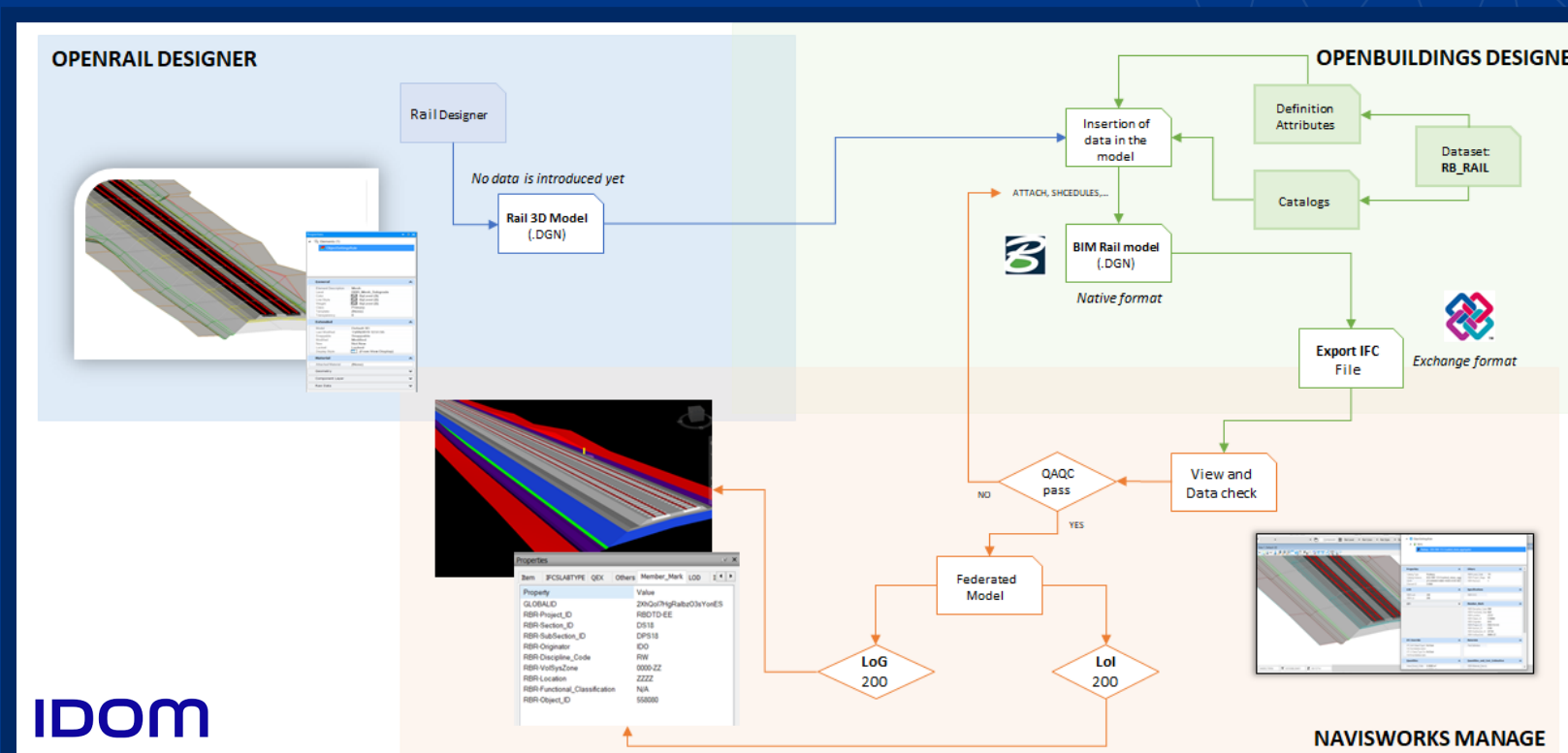
3D models from Architectural, landscaping and visual identity design guidelines as part of Design Guidelines

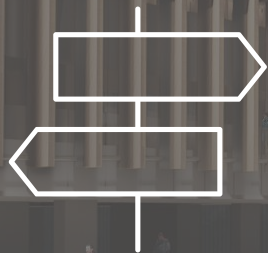


Discipline models – workflow for BIM models



Discipline models – workflow for BIM models





First acknowledgements

RIX Airport
Station

First acknowledgements

01



Set clear requirements

BEP and TIDP

It must correspond to BIM EIR and it shall be agreed during the Inception phase, but must be updated frequently.

VE, MD and DTD stages – must be renewed and followed.

02



Follow the progress

Client's task

Client must follow the progress. Client must be involved and must have/develop the knowledge. Client must understand what is being delivered. Dedicated team must be assigned (for now).

03



Everybody must learn

Client and Consultant

Teams on both sides must learn. Early stages of the project (VE) serves as «test ground» for Master and Detailed Technical Design stages.

04



Demand the results

Contract must be fulfilled

«...we usually don't do it this way...» is not acceptable.

If the rules are agreed, they must be followed – on both sides. Contract obligations are for both parties.

First acknowledgements

05



Flexibility

To a certain degree it's good

Too much flexibility gives room for misinterpretation = no rules.

Communication is key.

06



Big picture

Client must work with it in mind

Consultants come, do their work and go. Client must think about the goals to be achieved with Digitalization. BIM just to have BIM is not a goal.

07



BIM is not alone

AIM, GIS, etc.

Digitalization should be the priority. Modern asset management, digital tools and IT minded engineers.

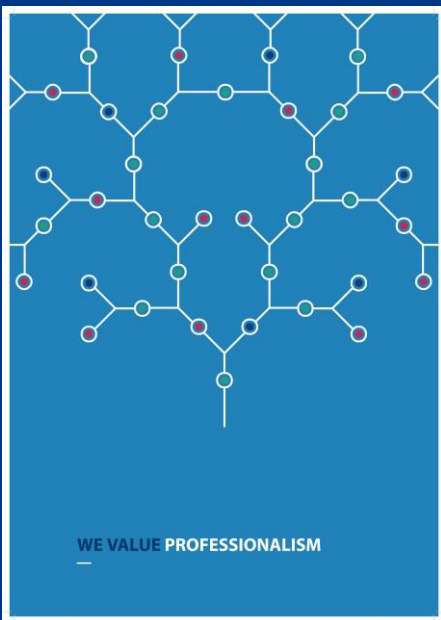
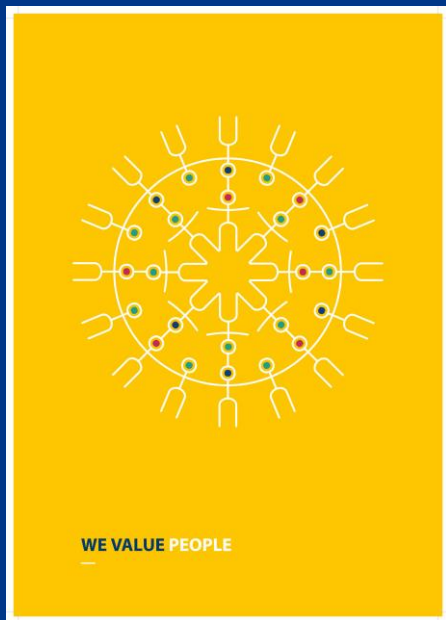
08



It's not easy

New things are hard

It takes time and effort. It's easy to loose the target and give up. Right people help, but most don't. Right people are hard to find.



Kiitos!
Thank you!
Aitäh!
Paldies!
Ačiū!

